The purpose of this working-seminar is to understand de Jong's work on resolution of singularities via alterations.

We plan to have 5 lectures in the Spring of 2004 which cover, roughly, the following topics.

Lectures 1 and 2: Introduction to Blow-ups. Convenient references are the sections concerning blow-ups in the books by Hartshorne [Ha] and Eisenbud-Harris [EH].

Lectures 3-5: Statement and sketch of proof of de Jong’s main theorem in [deJ1], as well as some applications.

What to read

The most introductory account is Oort’s article in the Bulletin of the AMS (see below).

de Jong’s two main papers on alterations:

Note: Both may be found on de Jong’s homepage: www-math.mit.edu/ dejong/.

Some survey articles about de Jong’s work:

Note: This can be found found on the AMS webpage, by clicking on Journals.

References
